



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

BRIEFER ARTICLES.

SUBTERRANEAN PLANTS OF EPIPHEGUS.

(WITH ONE FIGURE)

HAVING need of *Epiphegus virginiana* in late October, 1900, I sought a piece of beech woods in Holbrook, Massachusetts, where I found the plant growing abundantly in rich, deep humus. It was past the flowering time of this species in the main, but the warm season that year was unusually protracted, and numerous short shoots were being produced from the swollen stem bases, upon which I found flowers and fruit in all stages of development. The flowers borne by these late branches are very small. They are all cleistogamous and invariably give rise to capsules filled with fertile seed.

Occasionally these secondary shoots were observed to be flowering somewhat below the surface of the ground. This fact led to further exploration, and on turning up the mold I found many shoots that for one reason or another had never escaped from the soil. They were as productive of fruit and seed as the aerial branches. Finally, I brought to light a number of whole plants that had come to maturity below the surface. They were buried one or two inches deep, and were dwarf specimens, an inch or less in height. They bore several fruits containing good seed. A life-size figure of two of these plants is given herewith.

Whether this variation is simply physiological and due to tardy germination or lack of nourishment, as seems probable, or is constitutional and inheritable, the case offers an interesting example of a phanerogam leading its existence, and indeed completing its entire cycle of life, underground.—R. G. LEAVITT, *The Ames Botanical Laboratory, North Easton, Massachusetts.*



NOTES OF TRAVEL. VIII.

AMERICAN AUTUMN FOLIAGE IN EUROPE.

AS I TRAVEL through the forests of Arkansas and feast my eyes upon the splendor of their autumn foliage, which is second in beauty

only to such regions as the Berkshire hills, I am reminded of a little discovery I made last October in Bavaria. In visiting the large nursery of the brewing institute of Weihestephan at Freising near Munich, my attention was attracted by several dashes of bright red color among the generally somber browns and yellows of the autumn foliage. These flashes of color were quite remarkable, even from the distant hill where the institute stands. Upon inquiry I learned that this bright-colored foliage was borne by American and Japanese trees or shrubs, and that the brightest of all was our common American *Quercus rubra*, whose leaves were as deeply colored as I have ever seen them in America. Inspector Steinbock remarked, when I expressed my surprise at their color, that there were in the park near Munich several good-sized trees of the swamp maple (*Acer dasycarpum*) whose leaves regularly colored up in the autumn the brightest wine red. I visited these trees and was gratified to find them of the same dark red which we are accustomed to associate with this species in America. The Japanese species which was so brightly colored at the brewing institute was a species of *Berberis*, I believe, according to Mr. Steinbock, and its narrow leaves were a dark crimson.

So much has been said about the peculiarities of American and Japanese climate as a cause for the brilliant autumn foliage characteristic of these countries, that I fear we have left out of account the consideration of the species themselves. The matter may have been thoroughly discussed in the horticultural literature, but I know of no experiments bearing on the question. If the European oaks when grown in America show fine or quite different colorings from what they do at home, there the effect of climate must be accepted; but the fact just pointed out, that American oaks and maples color up brilliantly in Europe, points to a possible difference of species.

That the local climatic conditions about Munich are not responsible for the color I discovered on mentioning the matter to Mr. Schattel, of the firm of Vilmorin & Company in Paris. He assured me that in the large arboretum of M. Maurice de Vilmorin the same remarkable fact had been observed, and that certain of the American oaks and maples there were most brilliantly colored in autumn. One cannot fail to be struck in such wonderful parks as those of Compeign in France, the Thiergarten of Potsdam in Prussia, or the royal palace grounds in Munich, by the lack of those gay colors in the landscape that give to our autumn so large a share of its peculiar charm. A few

judiciously planted American oaks or maples in these parks would give to the effect just those touches of color that to an American eye seem lacking to make perfect an autumn afternoon stroll.

There is a large field for the study of autumn foliage in Europe and in this country. Individual peculiarities ought to be studied and trees that can be propagated asexually chosen from the thousands of seedlings in the parks. The physiological conditions which produce these colorations will be most interesting, and the effects of hybridization of highly coloring species may be something phenomenal. With the growing passion for ornamentals this feature cannot fail long to attract serious attention, and it would be an easy thing to carry on some international experiments, introducing into Europe quantities of our gorgeously coloring species.—DAVID G. FAIRCHILD, *Department of Agriculture, Washington, D. C.*

A NEW HELIOTROPIUM.

THE cosmopolitan *Heliotropium curassavicum* is supposed to be sufficiently well known, and the idea that the name may at present cover more than one species does not seem to be entertained. However, when I saw the plant passing as *H. curassavicum* in southern California, last summer, I was strongly impressed with the idea that it was quite distinct from that of southern New Mexico (Mesilla valley) and northern Mexico (Juarez in Chihuahua), which had been familiar to me for some years past. The latter plant is lower and less robust, with white flowers, which are visited at Juarez by a peculiar bee of the genus *Perdita*, a strong indication that the plant is really a native of the region.

The Californian plant I described from fresh material gathered at San Pedro in July, as follows: Spreading, about 20^{cm} high, robust, main stems 6^{mm} in diameter, bluish-green; leaves spatulate, the largest about 53^{mm} long and 20 broad; average leaves 27^{mm} long and 9 broad; larger leaves about 1^{mm} thick, smaller 0.5^{mm}. Flowers arranged as in *H. curassavicum*; flowering spikes usually in threes, about 25^{mm} long, elongating fruit to 60^{mm} or more; flowers 7^{mm} diameter, varying in the same spike from 5 to 6-lobed corolla; corolla white, throat deep purple or yellow (both colors on same spike); calyx-lobes lanceolate, equaling the tube of the corolla; corolla more or less purple outside, so that the buds appear purple.